

THAT WHICH IS CLAIMED IS:

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1. A method for making a radio frequency (RF) component comprising:
forming a dielectric layer on a semiconductor substrate;
5 forming and patterning a conductive layer on the dielectric layer to define the RF component;
forming at least one opening through the RF component at least to the semiconductor substrate; and
releasing the RF component from the
10 semiconductor substrate by exposing the semiconductor substrate to an etchant passing through the at least one opening to the semiconductor substrate.

2. The method of Claim 1 wherein releasing comprises exposing the semiconductor substrate to a dry etchant.

3. The method of Claim 2 wherein the dry etchant comprises XeF_2

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4. The method of Claim 1 wherein forming the at least one opening comprises forming a plurality of openings laterally adjacent portions of the conductive layer with no openings extending through the
5 conductive layer.

5. The method of Claim 1 wherein forming the plurality of openings comprises forming the plurality of openings in a predetermined pattern.

6. The method of Claim 5 wherein the predetermined pattern has substantially uniform spacing between adjacent openings.

7. The method of Claim 6 wherein the substantially uniform spacing is in a range of about 20 to about 200 μm .

8. The method of Claim 1 wherein the conductive layer comprises aluminum.

9. The method of Claim 1 wherein the dielectric layer comprises SiN.

10. The method of Claim 1 wherein forming the at least one opening comprises forming the at least one opening to have a diameter in a range of about .5 to 20 μm .

11. The method of Claim 1 wherein the semiconductor substrate comprises silicon.

12. The method of Claim 1 wherein the at least one opening extends into the semiconductor substrate.

13. The method of Claim 1 wherein the at least one opening substantially terminates at a surface of the semiconductor substrate.

14. A method for making a radio frequency (RF) component comprising:

forming a dielectric layer on a semiconductor substrate;

5 forming and patterning a conductive layer on the dielectric layer to define the RF component;

forming a plurality of openings through the dielectric layer at least to the semiconductor substrate; and

10 releasing the RF component from the semiconductor substrate by exposing the semiconductor substrate to an etchant passing through the openings to the semiconductor substrate.

15. The method of Claim 14 wherein releasing comprises exposing the semiconductor substrate to a dry etchant.

16. The method of Claim 15 wherein the dry etchant comprises XeF_2 .

17. The method of Claim 14 wherein forming the plurality of openings comprises forming the plurality of openings in a predetermined pattern.

18. The method of Claim 17 wherein the predetermined pattern has substantially uniform spacing between adjacent openings.

19. The method of Claim 18 wherein the substantially uniform spacing is in a range of about 20 to about 200 μm .

20. The method of Claim 14 wherein the conductive layer comprises aluminum.

21. The method of Claim 14 wherein the dielectric layer comprises SiN .

22. The method of Claim 14 wherein the semiconductor substrate comprises silicon.

23. A method for making a radio frequency (RF) component comprising:

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forming a dielectric layer on a semiconductor substrate;

5 forming and patterning a conductive layer on the dielectric layer to define the RF component;

forming a plurality of openings through the dielectric layer in a predetermined pattern at least to the semiconductor substrate; and

10 releasing the RF component from the semiconductor substrate by exposing the semiconductor substrate to an etchant comprising XeF_2 passing through the openings to the semiconductor substrate.

24. The method of Claim 23 wherein the predetermined pattern has substantially uniform spacing between adjacent openings.

25. The method of Claim 24 wherein the substantially uniform spacing is in a range of about 20 to about 200 μm .

26. The method of Claim 23 wherein the conductive layer comprises aluminum.

27. The method of Claim 23 wherein the dielectric layer comprises SiN .

28. The method of Claim 23 wherein the semiconductor substrate comprises silicon.

29. A radio frequency (RF) component comprising:

a dielectric layer having opposing first and second major surfaces, the first surface being free
5 from a semiconductor substrate, said dielectric layer

having a plurality of openings extending between the first and second opposing major surfaces; and

a patterned conductive layer on the second major surface of said dielectric layer.

30. The RF component of Claim 29 wherein said plurality of openings are arranged in a predetermined pattern.

31. The RF component of Claim 30 wherein the predetermined pattern has substantially uniform spacing between adjacent openings.

32. The RF component of Claim 31 wherein the substantially uniform spacing is in a range of about 20 to about 200 μm .

33. The RF component of Claim 29 wherein each opening has a diameter in a range of about .5 to 20 μm .

34. The RF component of Claim 29 wherein each opening has respective rounded over edges adjacent the first and second major surfaces.

35. The RF component of Claim 29 wherein the plurality of openings are laterally adjacent portions of the conductive layer with no openings extending through the conductive layer.